

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number  
WO 2004/050867 A1

(51) International Patent Classification<sup>7</sup>: C12N 15/00,  
15/63, 15/74, C07H 21/00, 21/04, C07K 16/00

Charlotte, F. [GB/US]; 8018 28th Avenue NW, Seattle,  
WA 98117 (US). FRANCISCO, Joseph, A. [US/US];  
21705 92nd Avenue West, Edmonds, WA 98020 (US).

(21) International Application Number:

PCT/US2002/038414

(74) Agents: ANTLER, Adrian, M. et al.; Pennie & Edmonds  
LLP, 1155 Avenue of the Americas, New York, NY 10036  
(US).

(22) International Filing Date: 2 December 2002 (02.12.2002)

(81) Designated States (national): CA, US.

(25) Filing Language: English

Published:

(26) Publication Language: English

— with international search report

(71) Applicant (for all designated States except US): SEAT-  
TLE GENETICS, INC. [US/US]; 21823 30th Drive, S.E.,  
Bothell, WA 98021 (US).

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(72) Inventors; and

(75) Inventors/Applicants (for US only): McDONAGH,

WO 2004/050867 A1

(54) Title: MODIFIED L49-sFv EXHIBITING INCREASED STABILITY AND METHODS OF USE THEREOF

(57) Abstract: The present invention relates to a modified L49 single chain antibody (L49-sFv) that exhibits increased refolding efficiency and/or greater stability in mouse serum, and surprisingly substantially maintains binding affinity for its binding ligand, p97 melanotransferrin. p97 melanotransferrin is expressed on the surface of a number of types of cancer (carcinoma) cells, e.g., melanoma cells, lung cancer cells, renal cancer cells, colon cancer cells. The present invention also relates to a modified L49-sFv fused or conjugated to a therapeutic agent, such as a cytotoxic molecule or a pro-drug converting enzyme. The present invention also relates to methods of using the modified L49-sFv molecules fused or conjugated to a therapeutic agent for treatment and/or prophylaxis of cancer, which cancer cells express p97 melanotransferrin.